

# **Chaotic LED**

**ORDERCODE 43051** 



SHOWELECTRONICS FOR PROFESSIONALS

#### Congratulations!

You have bought a great, innovative product from Showtec.

The Showtec Chaotic LED brings excitement to any venue. Whether you want simple plug-&-play action or a sophisticated DMX show, this product provides the effect you need.

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We design and manufacture professional light equipment for the entertainment industry.

New products are being launched regularly. We work hard to keep you, our customer, satisfied.

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You can get some of the best quality, best priced products on the market from Showtec. So next time, turn to Showtec for more great lighting equipment.

Always get the best -- with Showtec!

Thank you!



# Showtec

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#### WARNING

# FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE YOUR INITIAL START-UP!

## **Unpacking Instructions**

Immediately upon receiving this product, carefully unpack the carton and check the contents to ensure that all parts are present, and have been received in good condition. Notify the dealer immediately and retain packing material for inspection if any parts appear damaged from shipping or the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a fixture must be returned to the factory, it is important that the fixture be returned in the original factory box and packing.

#### Your shipment includes:

- Chaotic LED with cable 1,5m and hanging-bracket.
- •User manual

#### **LED Expected Lifespan**

LEDs gradually decline in brightness over time. HEAT is the dominant factor that leads to the acceleration of this decline. Packaged in clusters, LEDs exhibit higher operating temperatures than in ideal or singular optimum conditions. For this reason when all color LEDs are used at their fullest intensity, life of the LEDs is significantly reduced. It is estimated that a viable lifespan of 40,000 to 50,000 hours will be achieved under normal operational conditions. If improving on this lifespan expectancy is of a higher priority, place care in providing for lower operational temperatures. This may include climatic-environmental and the reduction of overall projection intensity.



# CAUTION! Keep this device away from rain and moisture! indoor use only!



#### SAFETY INSTRUCTIONS

Every person involved with the installation, operation and maintenance of this device has to:

- be aualified
- follow the instructions of this manual



CAUTION! Be careful with your operations.

With a dangerous voltage you can suffer
a dangerous electric shock when touching the wires!



Before your initial start-up, please make sure that there is no damage caused by transportation. Should there be any, consult your dealer and do not use the device.

To maintain perfect condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

Please consider that damages caused by manual modifications to the device are not subject to warranty.

This device contains no user-serviceable parts. Refer servicing to qualified technicians only.

#### **IMPORTANT:**

The manufacturer will not accept liability for any resulting damages caused by the nonobservance of this manual or any unauthorized modification to the device.

- Never let the power-cord come into contact with other cables! Handle the power-cord and all connections with the mains with particular caution!
- Never remove warning or informative labels from the unit.
- Never use anything to cover the ground contact.
- Never look directly into the light source.
- Never leave any cables lying around.
- Never use the device during thunderstorms, unplug the device immediately.
- Never leave various parts of the packaging (plastic bags, polystyrene foam, nails, etc.) within children's reach, as they are potential sources of danger.
- Never use the device during thunderstorms, unplug the device immediately.
- Do not insert objects into air vents.
- Do not open the device and do not modify the device.
- Do not connect this device to a dimmerpack.
- Do not shake the device. Avoid brute force when installing or operating the device.
- Do not switch the device on and off in short intervals, as this would reduce the system's life.
- Only use device indoor, avoid contact with water or other liquids.
- Only operate the device after having familiarized with its functions.
- Avoid flames and do not put close to flammable liquids or gases.
- Always allow free air space of at least 50 cm around the unit for ventilation.
- Always disconnect power from the mains, when device is not used or before cleaning! Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.
- Make sure that the device is not exposed to extreme heat, moisture or dust.
- Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power-cord is never crimped or damaged. Check the device and the powercord from time to time.
- Make sure that no side forces can impact on the truss system.
- The cable insert or the female part in the device must never be strained. There must always be sufficient cable to the device. Otherwise, the cable may be damaged which may lead to deadly electrical shocks.
- If the external cable is damaged, it has to be replaced by a qualified technician.
- If the lens is obviously damaged, it has to be replaced. So that its functions are not impaired, due to cracks or deep scratches.
- If device is dropped or struck, disconnect mains power supply immediately. Have a qualified engineer inspect for safety before operating.
- If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.
- If your Showtec device fails to work properly, discontinue use immediately. Pack the unit securely (preferably in the original packing material), and return it to your Showtec dealer for service.
- For adult use only. The device must be installed out of the reach of children. Never leave the unit running unattended.
- For replacement use fuses of same type and rating only.
- The user is responsible for correct positioning and operating of the Chaotic LED. The manufacturer will not accept liability for damages caused by the misuse or incorrect installation of this device.
- This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.
- For replacement use fuses of same type and rating only.
- Repairs, servicing and electric connection must be carried out by a qualified technician.
- WARRANTY: Till one year after date of purchase.

#### **OPERATING DETERMINATIONS**

- This device is not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.
- The minimum distance between light-output and the illuminated surface must be more than 0,5 meters.
- The maximum ambient temperature  $t_a$  = 45°C must never be exceeded.
- The relative humidity must not exceed 50 % with an ambient temperature of 45° C.
- If this device is operated in any other way, than the one described in this manual, the product may suffer damages and the warranty becomes void.
- Any other operation may lead to dangers like short-circuit, burns, electric shock, crash etc.

You endanger your own safety and the safety of others!

#### Rigging

Please follow the European and national guidelines concerning rigging, trussing and all other safety issues.

Do not attempt the installation yourself!

Always let the installation be carried out by an authorized dealer!

#### Procedure:

- If the Chaotic LED is lowered from the ceiling or high joists, professional trussing systems have to be used.
- Use a clamp to mount the Chaotic LED, with the mounting-bracket, to the trussing system.
- The Chaotic LED must never be fixed swinging freely in the room.
- The installation must always be secured with a safety attachment, e.g. an appropriate safety net or safety-cable.
- When rigging, derigging or servicing the device, always make sure, that the area below the installation place is blocked and staying in the area is forbidden.

Improper installation can cause serious damage to people and property!

#### Connection with the mains

Connect the device to the mains with the power-plug.

Always pay attention, that the right color cable is connected to the right place.

International	EU Cable	UK Cable	US Cable	Pin
L	BROWN	RED	YELLOW/COPPER	FASE
N	BLUE	BLACK	SILVER	NUL
	YELLOW/GREEN	GREEN	GREEN	EARTH

Make sure that the device is always connected properly to the earth!





Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Authorization Number (RMA number). Products returned without an RMA number will be refused. Highlite will not accept the returned goods or any responsibility. Call Highlite 0031-455667723 or mail <a href="mailto:aftersales@highlite.nl">aftersales@highlite.nl</a> and request an RMA prior to shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause for the return. Be sure to properly pack fixture, any shipping damage resulting from inadequate packaging is the customer's responsibility. Highlite reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

# Note: If you are given an RMA number, please include the following information on a piece of paper inside the box:

- 1) Your name
- 2) Your address
- 3) Your phone number
- 4) A brief description of the symptoms

#### Claims

The client has the obligation to check the delivered goods immediately upon delivery for any short-comings and/or visible defects, or perform this check after our announcement that the goods are at their disposal. Damage incurred in shipping is the responsibility of the shipper; therefore the damage must be reported to the carrier upon receipt of merchandise.

It is the customer's responsibility to notify and submit claims with the shipper in the event that a fixture is damaged due to shipping. Transportation damage has to be reported to us within one day after receipt of the delivery.

Any return shipment has to be made post-paid at all times. Return shipments must be accompanied with a letter defining the reason for return shipment. Non-prepaid return shipments will be refused, unless otherwise agreed in writing.

Complaints against us must be made known in writing or by fax within 10 working days after receipt of the invoice. After this period complaints will not be handled anymore.

Complaints will only then be considered if the client has so far complied with all parts of the agreement, regardless of the agreement of which the obligation is resulting.

# Description of the device

#### **Features**

The Showtec Chaotic LED is a light effect with high output and great effects.

- Plug & Play
- LED system: 3x 1 Watt RGB
- DMX-512 controlled
- Channels: 5
- Signal connector XLR 3-pole Male/ Female
- Power consumption: 15W
- Mode: DMX512, Stand-alone and Music controlled, Master/Slave
- Sound-controlled via built-in microphone
- Fuse 1A / 250V



Fig. 1

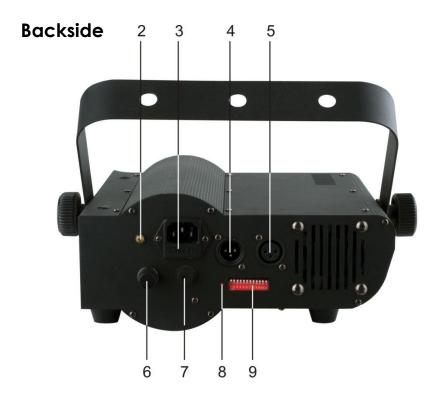


Fig. 2

- 1) Mountingbracket
- 2) Earth
- 3) IEC Power + Fuse 1A/250V
- **4)** 3-pin DMX In
- 5) 3-pin DMX Out

- 6) Audio Sensitivity
- 7) Built-in Microphone
- 8) DMX LED
- 9) DMX Dipswitches

#### Installation

Remove all packing materials from the Chaotic LED. Check that all foam and plastic padding is removed. Connect all cables.

Do not supply power before the whole system is set up and connected properly.

### **Set Up and Operation**

Before plugging the unit in, always make sure that the power supply matches the product specification voltage. Do not attempt to operate a 120V specification product on 230V power, or vice versa. Remove all packing materials from the Chaotic LED. Check that all foam and plastic padding is removed.

Always disconnect from electric mains power supply before cleaning or servicing. Damages caused by non-observance are not subject to warranty.

#### **Control Modes**

There are 4 Modes: 1) Built-in Programs

2) Sound-controlled

3) Master/Slave

4) DMX512

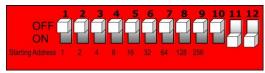
#### One Chaotic LED (Built-in Programs)

- 1. Fasten the effect light onto firm trussing. Leave at least 0,5 meter on all sides for air circulation.
- 2. When the Chaotic LED is not connected by a DMX-cable, it functions as a stand-alone device.

This device has 3 built-in programs:

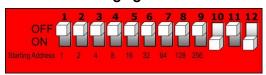
- A. Auto Color changing
- **B.** Auto Color changing with slow strobe
- C. Auto Color changing with strobe (1-20 Hz)

#### **Auto Color changing**



Program 1: Dipswitch #11 and #12 set to ON

#### Auto Color changing with slow strobe



Program 2 : Dipswitch #10 and #12 set to ON

#### Auto Color changing with strobe (1-20 Hz)

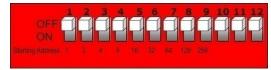


Program 3: Dipswitch #12 set to ON

#### One Chaotic LED (Sound control)

- 1. Fasten the effect light onto firm trussing. Leave at least 0,5 meter on all sides for air circulation.
- **2.** When the Chaotic LED is not connected by a DMX-cable, it functions as a stand-alone device. The Chaotic LED will automatically change its color to the beat of the music. With the Audio sensitivity control you can adjust its music-sensitivity.

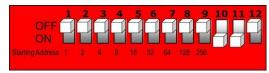
#### Sound-activated





Music Control 1: All Dipswitches set to OFF

#### Sound-activated with strobe (1-20 Hz)





Music Control 2: Dipswitch #10 and #11 set to ON

#### Sound-activated with Auto Color changing





Music Control 3: Dipswitch #11 set to ON

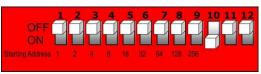
#### Multiple Chaotic LEDs (Master/Slave control)

- 1. Fasten the effect light onto firm trussing. Leave at least 0,5 meter on all sides for air circulation.
- 2. Use a 3-p XLR cable to connect the Chaotic LED.

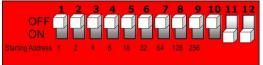
The pins:



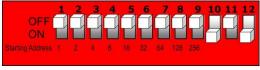
- 1. Earth
- 2. Signal -
- 3. Signal +
- **3.** Link the units as shown in (Fig. 3), Connect a DMX signal cable from the first unit's DMX "out" socket to the second unit's "in" socket. Repeat this process to link the second, third, and fourth units.
- **4.** There are 4 options to setup a master-slave chain:



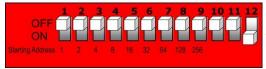
**Sound-active Master Control**: Dipswitch #10 should be set to ON **Slave Control**: Dipswitch #1 should be set to ON



**Auto 1 Master Control**: Dipswitch #11+12 should be set to ON **Slave Control**: Dipswitch #1 should be set to ON



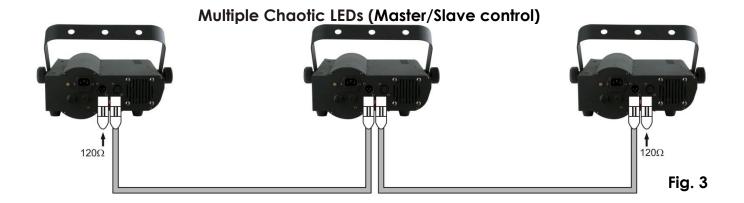
**Auto 2 Master Control**: Dipswitch #10+12 should be set to ON **Slave Control**: Dipswitch #1 should be set to ON



**Auto 3 Master Control**: Dipswitch #12 should be set to ON **Slave Control**: Dipswitch #1 should be set to ON



You can use the same functions on the master device as described on page 7+8 (Built-in Programs 1-3, and Music control). This means on the master device you can use your desired operation Mode and all slave devices will react the same as the master device.



#### Multiple Chaotic LEDs (DMX control)

- 1. Fasten the effect light onto firm trussing. Leave at least 0,5 meter on all sides for air circulation.
- 2. Use a 3-p XLR cable to connect the Chaotic LED.

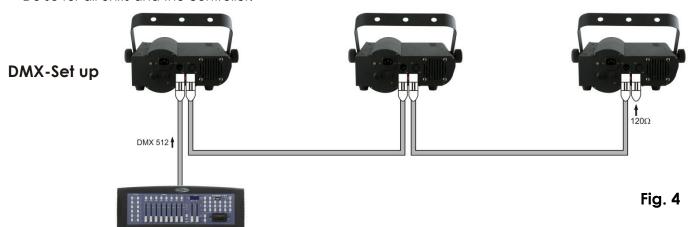
The pins:



- 1. Earth
- 2. Signal -
- 3. Signal +
- **3.** Link the units as shown in (Fig. 4), Connect a DMX signal cable from the first unit's DMX "out" socket to the second unit's "in" socket. Repeat this process to link the second, third, and fourth units.
- **4.** Set DMX dip switches as follows (See Dip Switch setting page 10).

Chaotic LED	<b>Address Value</b>	DMX Dip Switches "ON"
Unit 1	1	Service Material 19 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Unit 2	6	OF 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Unit 3	11	OFF 1
Unit 4	16	OFF 1

**5.** Supply electric power: Plug the end of the mains power cord into proper electric power supply sockets. Do so for all units and the controller.



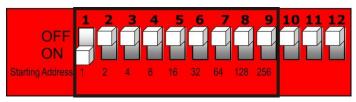
#### Note: Link all DMX cables and set dip switches before connecting electric power

**6.** Do not supply power before the whole system is set up and connected properly. Design your show according to your DMX controller functions.

## Dipswitch setting for DMX Mode

When all dipswitches are turned off, the Chaotic LED is in DMX Mode.

- Dipswitches #1 - #9 control the DMX Addresses.

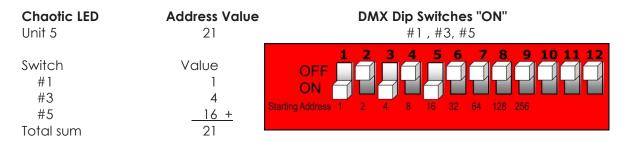


**DMX Address** 

DMX products must have their own "address" to receive DMX signals. Addresses on the controller are set by flipping the appropriate DMX dipswitches.

You need to know that DMX address settings are the sum of the dip switch values. A standard DMX address for a Showtec Chaotic LED, which has 5 channels is as follow:

#### Example



Explanation: Since each unit has 5 channels, each address advances 5 values (See Address Value above).

Once address values are determined, add DMX dipswitch values to obtain the appropriate address (DMX Dip Switches "ON") for each unit. Flip appropriate DMX dipswitches on each unit.

#### **Example:**

- 1. If you want to give an Chaotic LED DMX address 133, you first have to find the number 133 in the DMX Chart. (See page 11)
- 2. Then look at the left side (Dip Switches #1-#5) horizontally from 133. In the Table you'll see #1=ON, #2=OFF, #3=ON, #4=OFF, #5=OFF.
- **3.** Finally look at the upper side of the table (Dip Switches #6-#9) vertically from 133. In the Table you'll see #6=OFF, #7=OFF, #8=ON, #9=OFF.

# **DMX Address Quick Reference Cl**

DN	DMX DIP SWITCH SET			#9	0	0	0	0	0	0	
	(	0=OFF	=		#8	0	0	0	0	1	1
		1=ON			#7	0	0	1	1	0	0
				#6	0	1	0	1	0	1	
#1	#2	#3	#4	#5							
0	0	0	0	0			32	64	96	128	160
1	0	0	0	0		1	33	65	97	129	161
0	1	0	0	0		2	34	66	98	130	162
1	1	0	0	0		3	35	67	99	131	163
0	0	1	0	0		4	36	68	100	132	164
1	0	1	0	0		5	37	69	101	133	165
0	1	1	0	0		6	38	70	102	134	166

#### **DMX Address Quick Reference Chart** Dip Switch Position DMX DIP SWITCH SET #9 0=OFF #8 1=ON #7 #6 #1 #2 #3 #4 #5

**Dip Switch Position** 

179 211

189 221

339 371

**DMX Address** 

#### **DMX Channels**

#### Channel 1 - Red

0-5	OFF
6-255	Red ON

#### Channel 2 - Green

0-5	OFF
6-255	Green ON

#### Channel 3 - Blue

0-5	OFF
6-255	Blue ON

#### Channel 4 – Light ON/Off, Strobe

0-5	LEDs ON
6-10	LEDs OFF
11-255	Strobe from slow to fast (1-20Hz)

Note: For CH4 to function correctly, CH1, CH2 and/or CH3 must be set between 6-255

#### Channel 5 – Rotation

0-4	No Rotation
5-111	Clockwise rotation from fast to slow
112-143	No Rotation
144-255	Counter Clockwise rotation from slow to fast

Note: For CH5 to function correctly, CH1, CH2 and/or CH3 must be set between 6-255

#### Maintenance

The Showtec Chaotic LED requires almost no maintenance. However, you should keep the unit clean. Otherwise, the fixture's light-output will be significantly reduced. Disconnect the mains power supply, and then wipe the cover with a damp cloth. Do not immerse in liquid. Wipe lens clean with glass cleaner and a soft cloth. Do not use alcohol or solvents. Keep connections clean. Disconnect electric power, and then wipe the connections with a damp cloth. Make sure connections are thoroughly dry before linking equipment or supplying electric power.

The operator has to make sure that safety-relating and machine-technical installations are to be inspected by an expert after every four years in the course of an acceptance test. The operator has to make sure that safety-relating and machine-technical installations are to be inspected by a skilled person once a year.

The following points have to be considered during the inspection:

- 1. All screws used for installing the device or parts of the device have to be tightly connected and must not be corroded.
- **2.** There may not be any deformations on housings, fixations and installation spots.
- 3. Mechanically moving parts like axles, eyes and others may not show any traces of wearing.
- **4.** The electric power supply cables must not show any damages or material fatigue.

#### Replacing a Fuse

Power surges, short-circuit or inappropriate electrical power supply may cause a fuse to burn out. If the fuse burns out, the product will not function whatsoever. If this happens, follow the directions below.

- 1. Unplug the unit from electric power source.
- 2. Insert a flat-head screwdriver into a slot in the fuse cover. Gently pry up the fuse cover. The fuse will come out.
- 3. Remove the used fuse. If brown or unclear, it is burned out.
- **4.** Insert the replacement fuse into the holder where the old fuse was. Reinsert the fuse cover. Be sure to use a fuse of the same type and specification. See the product specification label for details.

# **Troubleshooting**

#### No Light

This troubleshooting guide is meant to help solve simple problems. If a problem occurs, carry out the steps below in sequence until a solution is found. Once the unit operates properly, do not carry out following steps. If the light effect does not operate properly, refer servicing to a technician.

Response: Suspect three potential problem areas: the power supply, the LEDs, the fuse.

- 1. Power supply. Check that the unit is plugged into an appropriate power supply.
- 2. The LEDs. Return the Chaotic LED to your Showtec dealer.
- 3. The fuse. Replace the fuse. See page 12 for replacing the fuse.

#### No Response to DMX

Response: Suspect the DMX cable or connectors, a controller malfunction, a light effect DMX card malfunction.

- 1. Check the DMX cable: Unplug the unit; change the DMX cable; then reconnect to electrical power. Try your DMX control again.
- 2. Determine whether the controller or light effect is at fault. Does the controller operate properly with Other DMX products? If not, take the controller in for repair. If so, take the DMX cable and the light effect to a qualified technician.

Problem	Probable cause(s)	Remedy		
One or more fixtures are completely dead.	No power to the fixture	· Check that power is switched on and cables are plugged in.		
dedd.	Primary fuse blown.	· Replace fuse.		
Fixtures reset	The controller is not connected.	·Connect controller.		
correctly, but all respond erratically or not at all to the controller.	3-pin XLR Out of the controller does not match XLR Out of the first fixture on the link (i.e. signal is reversed).	<ul> <li>Install a phase reversing cable between the controller and the first fixture on the link.</li> </ul>		
	Poor data quality	· Check data quality. If much lower than 100 percent, the problem may be a bad data link connection, poor quality or broken cables, missing termination plug, or a defective fixture disturbing the link.		
	Bad data link connection	·Inspect connections and cables. Correct poor connections. Repair or replace damaged cables.		
E down and	Data link not terminated with 120 Ohm termination plug.	·Insert termination plug in output jack of the last fixture on the link.		
Fixtures reset	Incorrect addressing of the fixtures.	·Check address setting.		
correctly, but some respond erratically or not at all to the controller.	One of the fixtures is defective and disturbs data transmission on the link.	Bypass one fixture at a time until normal operation is regained: unplug both connectors and connect them directly together.      Have the defective fixture serviced by a qualified technician.		
	3-pin XLR Out on the fixtures does not match (pins 2 and 3 reversed).	Install a phase-reversing cable between the fixtures or swap pin 2 and 3 in the fixture, that behaves erratically.		
No light	The power supply settings do not match local AC voltage and frequency.	· Disconnect fixture. Check settings and correct if necessary.		

# **Product Specification**

Model: Showtec Chaotic LED Power: 240V-50Hz (CE) Power consumption: 15W LED system: 3x 1 Watt RGB

DMX-512 controlled

Channels: 5

Signal connector XLR 3-pole Male/Female

Mode: DMX512, Stand-alone and Music controlled, Master/Slave

Sound-controlled via built-in microphone

Fuse 1A / 250V

Dimensions (LxWxH): 260 x 250 x 115 mm

Weight: 2,5 kg



Minimum distance from flammable surfaces: 0.5m

Minimum distance to lighted object: 0.8m

Design and product specifications are subject to change without prior notice.



Website: <u>www.Showtec.info</u> Email: <u>service@highlite.nl</u>

250 mm





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